REMARKS/ARGUMENTS

STATUS OF THE CLAIMS

Claims 1-45 and 47-81 are pending, and claims 46 and 82-96 are canceled, with entry of this amendment. Claims 47-49, 52-55, and 76 are amended herein to provide proper antecedent basis for the term "material removal component" and to clarify that the multi-well plate processing system comprises at least one positioning component and/or at least one dispensing component. Support for these amendments is replete throughout the application as filed, including, e.g., original claim 47.

These amendments are made without prejudice and are not to be construed as an abandonment of the previously claimed subject matter or agreement with any objection or rejection of record. Applicant respectfully requests that all of these amendments be entered.

RESTRICTION REQUIREMENT

Applicants hereby confirm their election of Group I (Claims 1-45 and 47-81) without traverse.

35 U.S.C. § 102

The Action rejects claims 1, 2, 9, 12, 13, 15-18, 20, 32-34, 44, and 45 under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Pat. No. 4,791,821 to Spencer (hereinafter, Spencer).

As a general matter, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described . . . " Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Stated otherwise, to be anticipated by a reference "[t]he identical invention must be shown in as complete detail as is contained in the ... claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). *See also,* MPEP 2131.

Applicants respectfully traverse each of these rejections, which include four independent claims (i.e., 1, 32, 44, and 45), for the exemplary reasons specified below.

Spencer does not anticipate independent claim 1 or any claims that depend from claim 1

Claim 1 recites a material removal head for removing materials from one or more wells of a multi-well plate. The material removal head includes at least one tip that includes at least one vent opening, at least one inlet and at least one outlet. The inlet communicates with the outlet. The tip is structured such that when the inlet is disposed proximal to a selected well from which a material is to be removed, the tip forms a barrier between the selected well and at least one adjacent well. In addition, when the outlet is operably connected to a negative pressure source, air is drawn through the vent opening and into the inlet, thereby noninvasively removing material from the selected well while the barrier prevents cross-contamination of the adjacent well.

Spencer neither expressly nor inherently describes each and every element as set forth in claim 1. In contrast, Spencer describes a vented needle 5 that includes an injection passageway 13, which transmits sample fluid through the needle 5. The vented needle 5 also includes a vent passageway 14 that vents gases and excess sample fluids from sample bottle 9 to vent line opening 16, to which may be attached a vent line fitting 12, which, in turn, is attachable to a vent line 11. Vent line 11 may lead to a closed waste container or may be coupled with valving and a pressure reducing mechanism, such as a venturi, in order to return the contents of the vent line 11 to the process line 2. *See,* col. 2, lines 57-68 and col. 3, lines 1-6 and Figure 3 of Spencer. As acknowledged in the Action, Spencer discloses nothing about sample removal via vented needle 5, but rather, only alleges sample injection. *See,* Action at page 6. Spencer doesn't even suggest the possibility of operably connecting a negative pressure source to the outlet of injection passageway 13 at the upper end 27 of vented needle 5. In addition, Spencer also fails to disclose anything about multi-well plates. Instead, Spencer merely describes dispensing sample fluid through a single opening (i.e., mouth 33) of sample bottle 9, which is not a multi-well plate.

Moreover, even if the vented needle 5 of Spencer were used as the Action suggests (which Spencer clearly fails to disclose), it would still not anticipate the claimed material removal head. For example, to form a barrier, the vented needle 5 of Spencer would require the use of stopper 32 (characterized in the Action as "barrier 32") fitted about needle shaft 31. *See,* Spencer at col. 3, line 45 and 46 and the Action at page 6. However, Spencer

fails to disclose, either expressly or inherently, that the vented needle 5/stopper 32 would work using a multi-well plate in the manner recited in claim 1 of the subject application. The vented needle 5 and stopper 32 of Spencer are only designed for insertion into the mouth 33 of sample bottle 9, not proximal to wells of a multi-well plate. *See, e.g.,* Figure 3 of Spencer. In other words, the vented needle/stopper configuration of Spencer is not a tip that is structured such that when an inlet of the tip is disposed proximal to a selected multi-well plate well from which a material is to be removed, the tip forms a barrier between the selected well and at least one adjacent well of the multi-well plate. Therefore, since Spencer fails to teach each and every element as set forth in the claim 1, Spencer does not anticipate claim 1 or any claim that depends from claim 1.

Spencer does not anticipate independent claim 32 or any claims that depend from claim 32

Claim 32 recites a material removal head that includes at least one vent opening, at least one inlet and at least one outlet. The inlet communicates with the outlet. Further, the inlet is structured to noninvasively remove material from at least one selected well disposed in at least one multi-well plate when the outlet is operably connected to at least one negative pressure source. In addition, a surface of the material removal head that comprises the inlet is structured to substantially seal at least one non-selected well in the multi-well plate when the inlet is disposed proximal to the selected well from which the material is to be removed.

As described above, Spencer does not teach a material removal head or anything about material removal. Instead, Spencer merely describes a vented needle used for sample injection. In addition, Spencer also fails to disclose anything about multi-well plates. Moreover, even if the vented needle of Spencer were used as suggested in the Action (which it was clearly not designed for and for which Spencer, itself, provides no teaching), it would still not anticipate the material removal head of claim 32. To illustrate in addition to the remarks made above with respect to claim 1 and its dependent claims, the vented needle of Spencer does not include a surface that is structured to substantially seal non-selected multi-well plate wells as claimed. Accordingly, Spencer does not anticipate independent claim 32 or any claim that depends from claim 32.

Spencer does not anticipate independent claim 44

Claim 44 recites a material removal head that includes at least one tip that extends from the material removal head. The tip comprises at least one vent opening and at least one inlet. The material removal head further comprises at least one outlet that communicates with the inlet. In addition, the inlet is structured to noninvasively remove material from at least one well disposed in at least one multi-well plate when the outlet is operably connected to at least one negative pressure source thereby drawing air through the vent opening and into the inlet. Furthermore, the tip is structured to mate with the well from which the material is to be removed to form a barrier between the well and one or more adjacent material-containing wells when the material is removed.

As stated above, Spencer merely describes a vented needle used for sample injection and teaches nothing about material removal heads. Further, Spencer also fails to teach anything about multi-well plates. Even if the vented needle of Spencer were used as the Action suggests (for which Spencer, itself, provides no disclosure), it would still not anticipate the material removal head recited in claim 44. For example, as also explained above, to form a barrier, the vented needle 5 of Spencer would require the use of stopper 32 fitted about needle shaft 31. However, Spencer fails to disclose, either expressly or inherently, that the vented needle 5/stopper 32 would work using a multi-well plate in the manner recited in claim 44 of the subject application. The vented needle 5 and stopper 32 of Spencer are only designed for insertion into the mouth 33 of sample bottle 9, not for mating with wells of a multi-well plate. *See, e.g.,* Figure 3 of Spencer. In other words, the vented needle/stopper configuration of Spencer is not structured to mate with the well from which material is to be removed to form a barrier between the well and one or more adjacent material-containing wells when the material is removed. Therefore, Spencer does not anticipate claim 44.

Spencer does not anticipate independent claim 45

Claim 45 recites a material removal head comprising at least one vent opening, at least one inlet and at least one outlet. The inlet communicates with the outlet. In addition, the inlet comprises a first cross-sectional dimension that is less than a first cross-

sectional dimension of at least one well disposed in at least one multi-well plate and a second cross-sectional dimension that substantially corresponds to at least a segment of a length of at least one line of wells disposed in the multi-well plate. Further, the inlet is structured to noninvasively remove material from one or more wells disposed in the line of wells when the outlet is operably connected to at least one negative pressure source. Moreover, a surface of the material removal head that comprises the inlet is structured to substantially seal at least one other well in the multi-well plate when the inlet is disposed proximal to the well from which the material is to be removed.

As described above, Spencer does not teach a material removal head. Instead, Spencer merely describes a vented needle used for sample injection. Moreover, even if the vented needle of Spencer were used as suggested in the Action (for which Spencer, itself, provides no disclosure), it would still not anticipate the material removal head of claim 45. To illustrate, as stated above, Spencer teaches nothing about multi-well plates. Instead, Spencer only describes injecting sample fluids into sample bottles (see, sample bottle 9 in Figure 1 of Spencer). As such, Spencer does not teach an inlet comprising a first cross-sectional dimension that is less than a first cross-sectional dimension of at least one well disposed in at least one multi-well plate and a second cross-sectional dimension that substantially corresponds to at least a segment of a length of at least one line of wells disposed in the multi-well plate as recited in claim 45. In addition, the vented needle of Spencer does not include a surface that is structured to substantially seal at least one other well in the multi-well plate when the inlet is disposed proximal to the well from which the material is to be removed. As a consequence, Spencer does not anticipate independent claim 45.

For the exemplary reasons specified above, Spencer does not anticipate independent claims 1, 32, 44, or 45, or any claim that depends from one of those independent claims. Accordingly, Applicants respectfully request that all of these rejections be withdrawn.

35 U.S.C. § 103

The Action rejects various claims as allegedly being obvious under 35 U.S.C. § 103, namely, claim 3 over Spencer as applied to claim 1 and further in view of U.S. Pat.

No. 4,734,261 to Koizumi et al. (hereinafter, Koizumi); claims 4-8, 10, 11, 14, 21, and 22 over Spencer as applied to claim 1 and further in view of U.S. Pat. No. 3,650,306 to Lancaster (hereinafter, Lancaster); claim 19 over Spencer as applied to claim 18 and further in view of U.S. Pat. No. 6,143,252 to Haxo et al. (hereinafter, Haxo); claims 23-28, 30, and 31 over Spencer as applied to claim 1 and further in view of Lancaster; claim 29 over Spencer and Lancaster as applied to claim 23 and further in view of U.S. Pat. No. 5,935,523 to McCandless et al. (hereinafter, McCandless); claims 35-40, 42, and 43 over Spencer as applied to claim 32 and further in view of Lancaster; claim 41 over Spencer and Lancaster as applied to claim 35 and further in view of McCandless; and claims 47, 48, 50-66, 72, 73, and 75-81 over Spencer in view of Lancaster. Applicants respectfully traverse each of these rejected claims for the exemplary reasons stated below.

Claim 3 is not obvious over Spencer as applied to claim 1 and further in view of Koizumi

For the reasons stated above, Spencer fails to teach or suggest all of the limitations of claim 1. For example, Spencer does not teach a material removal head or anything about sample removal. Instead, Spencer merely describes a vented needle used for sample injection. Further, Spencer also fails to disclose anything about multi-well plates. Moreover, even if the vented needle/stopper of Spencer were used as suggested in the Action (i.e., contrary to its stated purpose in Spencer as a sample injection device), it would still not work using a multi-well plate in the manner recited in claim 1 of the subject application, for the reasons specified above. Koizumi, which describes a duplex pipette, does not supply all of these missing limitations. For example, Koizumi also fails to teach or suggest a tip that is structured such that when the inlet is disposed proximal to a selected well from which a material is to be removed, the tip forms a barrier between the selected well and at least one adjacent well of a multi-well plate. Since neither Spencer nor Koizumi, whether considered individually or in combination, teach or suggest all of the limitations of claim 1, that claim is non-obvious over this cited art. *See,* MPEP 2142. As a consequence, claim 3, which depends from claim 1 is also necessarily non-obvious over this cited art as well. Applicants further note that the tips depicted in Figure 5C of Koizumi are not even resiliently coupled to the pipette device, but rather, are structured to rotate. In any event, as claim 3 of the subject

application is non-obvious over this cited art, Applicants respectfully request that this rejection be withdrawn.

Claims 4-8, 10, 11, 14, 21-28, 30, and 31 are not obvious over Spencer as applied to claim 1 and further in view of Lancaster

As stated above, Spencer fails to teach or suggest all of the limitations of claim 1. To illustrate, Spencer does not teach a material removal head or anything about sample removal. Instead, Spencer merely describes a vented needle used for sample injection. Further, Spencer also fails to disclose anything about multi-well plates. Moreover, even if the vented needle/stopper of Spencer were used as suggested in the Action (i.e., contrary to its only stated purpose in Spencer as a sample injection device), it would still not work using a multi-well plate in the manner recited in claim 1 of the subject application. Lancaster does not supply all of these missing limitations. For example, Lancaster also fails to teach or suggest a tip that is structured such that when the inlet is disposed proximal to a selected well from which a material is to be removed, the tip forms a barrier between the selected well and at least one adjacent well of a multi-well plate. Instead, Lancaster simply alleges a dispensing apparatus that during operation appears to involve invasively withdrawing liquid from a liquid supply trough 66 and dispensing that liquid into microtitration plate wells. Since neither Spencer nor Lancaster, whether considered individually or in combination, teach or suggest all of the limitations of claim 1, that claim is non-obvious over this cited art. *See,* MPEP 2142. As a consequence, all claims that depend from claim 1 are also necessarily non-obvious over this cited art as well. Accordingly, Applicants respectfully request that all of these rejections be withdrawn.

Claim 19 is not obvious over Spencer as applied to claim 18 and further in view of Haxo

As specified above, Spencer fails to teach or suggest all of the limitations of claim 1. For example, Spencer does not teach a material removal head or anything about sample removal. Instead, Spencer merely describes a vented needle used for sample injection. Further, Spencer also fails to disclose anything about multi-well plates. Moreover, even if the vented needle/stopper of Spencer were used as suggested in the Action (i.e.,

contrary to its only stated purpose in Spencer as a sample injection device), it would still not work using a multi-well plate in the manner recited in claim 1 of the subject application. Haxo does not supply all of these missing limitations. For example, Haxo also fails to teach or suggest a tip that is structured such that when the inlet is disposed proximal to a selected well from which a material is to be removed, the tip forms a barrier between the selected well and at least one adjacent well of a multi-well plate. Instead, Haxo simply alleges a pipetting device that appears to involve invasively aspirating materials during operation. Since neither Spencer nor Haxo, whether considered individually or in combination, teach or suggest all of the limitations of claim 1, that claim is non-obvious over this cited art. *See,* MPEP 2142. As a consequence, all claims that depend from claim 1 are also necessarily non-obvious over this cited art as well, including claims 18 and 19. Accordingly, Applicants respectfully request that all of these rejections be withdrawn.

Claim 29 is not obvious over Spencer and Lancaster as applied to claim 23 and further in view of McCandless

For the reasons specified above, Spencer and Lancaster, whether considered individually or in combination, fail to teach or suggest all of the limitations of claim 1. McCandless does not supply all of the missing limitations. To illustrate, McCandless also fails to teach or suggest a tip that is structured such that when the inlet is disposed proximal to a selected well from which a material is to be removed, the tip forms a barrier between the selected well and at least one adjacent well of a multi-well plate. Instead, McCandless simply alleges an apparatus for accessing a sealed container. Since Spencer, Lancaster, and McCandless, whether considered individually or in combination, fail to teach or suggest all of the limitations of claim 1, that claim is non-obvious over this cited art. *See,* MPEP 2142. As a consequence, all claims that depend from claim 1 are also necessarily non-obvious over this cited art as well, including claims 23 and 29. Accordingly, Applicants respectfully request that all of these rejections be withdrawn.

Claims 35-40, 42, and 43 are not obvious over Spencer as applied to claim 32 and further in view of Lancaster

As stated above, Spencer fails to teach or suggest all of the limitations of independent claim 32. To illustrate, Spencer does not teach a material removal head or anything about sample removal. Instead, Spencer merely describes a vented needle used for sample injection. In addition, Spencer also fails to disclose anything about multi-well plates. Moreover, even if the vented needle of Spencer were used as suggested in the Action (which it was clearly not designed for), it would still not teach or suggest the material removal head of claim 32. To illustrate, the vented needle of Spencer does not include a surface that is structured to substantially seal non-selected multi-well plate wells as claimed. Lancaster does not supply all of these missing limitations. For example, Lancaster also fails to teach or suggest a surface of a material removal head that comprises the inlet that is structured to substantially seal at least one non-selected well in a multi-well plate when the inlet is disposed proximal to the selected well from which the material is to be removed. Instead, Lancaster simply alleges a dispensing apparatus that during operation appears to involve invasively withdrawing liquid from a liquid supply trough 66 and dispensing that liquid into microtitration plate wells. Since neither Spencer nor Lancaster, whether considered individually or in combination, teach or suggest all of the limitations of claim 32, that claim is non-obvious over this cited art. *See,* MPEP 2142. As a consequence, all claims that depend from claim 32 are also necessarily non-obvious over this cited art as well, including claims 35-40, 42, and 43. Accordingly, Applicants respectfully request that all of these rejections be withdrawn.

Claim 41 is not obvious over Spencer and Lancaster as applied to claim 35 and further in view of McCandless

As specified above, Spencer and Lancaster, whether considered individually or in combination, fail to teach or suggest all of the limitations of claim 32. McCandless does not supply all of the missing limitations. To illustrate, McCandless also fails to teach or suggest a surface of a material removal head that is structured to substantially seal at least one non-selected well in a multi-well plate when the inlet is disposed proximal to the selected well from which the material is to be removed. Instead, McCandless simply alleges an

apparatus for accessing a sealed container. Since Spencer, Lancaster, and McCandless, whether considered individually or in any combination, fail to teach or suggest all of the limitations of claim 32, that claim is non-obvious over this cited art. *See,* MPEP 2142. As a consequence, all claims that depend from claim 32 are also necessarily non-obvious over this cited art as well, including claims 35 and 41. Accordingly, Applicants respectfully request that all of these rejections be withdrawn.

Claims 47, 48, 50-66, 72, 73, and 75-81 are not obvious over Spencer in view of Lancaster

Independent claim 47 recites a multi-well plate processing system that includes at least one material removal component comprising at least one tip that comprises at least one vent opening, at least one inlet and at least one outlet. The inlet communicates with the outlet. In addition, the tip is structured such that when the inlet is disposed proximal to a selected well from which a material is to be removed, the tip forms a barrier between the selected well and at least one adjacent well. Further, when the outlet is operably connected to a negative pressure source, air is drawn through the vent opening and into the inlet, thereby noninvasively removing material from the selected well while the barrier prevents cross-contamination of the adjacent well. In addition, the system also includes at least one positioning component and/or at least one dispensing component. The positioning component is structured to position one or more multi-well plates relative to the material removal component. The dispensing component is structured to dispense one or more materials into one or more wells of one or more multi-well plates.

As stated above, Spencer fails to teach or suggest material removal components as claimed or anything about sample removal. Instead, Spencer merely describes a vented needle used for sample injection. In addition, Spencer also fails to disclose anything about multi-well plates, multi-well plate positioning components, or multi-well plate dispensing components. Moreover, even if the vented needle/stopper of Spencer were used as suggested in the Action (i.e., contrary to its only stated purpose in Spencer as a sample injection device), it would still not work using a multi-well plate in the manner recited in claim 47 of the subject application. For example, to form a barrier, the vented needle 5 of Spencer would require the use of stopper 32 (characterized in the Action as

"barrier 32") fitted about needle shaft 31. *See,* Spencer at col. 3, line 45 and 46 and the Action at page 6. However, Spencer fails to disclose, either expressly or inherently, that the vented needle 5/stopper 32 would work using a multi-well plate in the manner recited in claim 1 of the subject application. The vented needle 5 and stopper 32 of Spencer are only designed for insertion into the mouth 33 of sample bottle 9, not proximal to wells of a multi-well plate. *See, e.g.,* Figure 3 of Spencer. In other words, the vented needle/stopper configuration of Spencer is not a tip that is structured such that when an inlet of the tip is disposed proximal to a selected multi-well plate well from which a material is to be removed, the tip forms a barrier between the selected well and at least one adjacent well of the multi-well plate.

In addition, Lancaster does not supply all of these missing limitations. For example, Lancaster also fails to teach or suggest a tip that is structured such that when the inlet is disposed proximal to a selected well from which a material is to be removed, the tip forms a barrier between the selected well and at least one adjacent well of a multi-well plate. Instead, Lancaster simply alleges a dispensing apparatus that during operation appears to involve invasively withdrawing liquid from a liquid supply trough 66 and dispensing that liquid into microtitration plate wells.

Since neither Spencer nor Lancaster, whether considered individually or in combination, teach or suggest all of the limitations of claim 47, that claim is non-obvious over this cited art. *See,* MPEP 2142. As a consequence, all claims that depend from claim 1 are also necessarily non-obvious over this cited art as well. Accordingly, Applicants respectfully request that all of these rejections be withdrawn.

It should also be noted with respect to each of these rejections, that since the use of the vented needle/stopper of Spencer supplied by the Action is contrary to its only stated purpose in Spencer (i.e., as a sample injection device), there was also clearly no suggestion or motivation, either in Spencer itself or in the knowledge generally available to one of ordinary skill in the art, to modify the vented dispensing needle/stopper of Spencer as suggested in the Action, and accordingly, no reasonable expectation of success.

CONCLUSION

In view of the foregoing, the Applicants believe that all pending claims are novel and are non-obvious over the cited art, and accordingly are in a condition for allowance. Applicants respectfully request the issuance of a formal notice of allowance at an early date.

If the Examiner believes a telephone conference would be of further assistance, please telephone the undersigned at the number indicated below.

In the event that the U.S. Patent and Trademark Office determines that further extensions and/or other relief is required, Applicant petitions for any required relief including extensions of time and authorize the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 50-1885 referencing docket No. P1088US10.

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